| • • • | ide. | <br>•    | <br> |  |
|-------|------|----------|------|--|
|       |      | <b>J</b> |      |  |

| Application/Control No. | Applicant(s)/Patent under Reexamination |
|-------------------------|---|
| 10/681,450              | HIROE ET AL.                            |
| Examiner                | Art Unit                                |
| Rita R. Patel           | 1746                                    |

| / | Rejected | - | (Through numeral)<br>Cancelled |
|---|----------|---|--------------------------------|
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| ı | Interference | ( |

| A | Appeal   |
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| Cla   | aim  | Date   |           |  |                                     |          |          |  |  |                 |
|-------|--|--|-----------|--|-------------------------------------|----------|----------|--|--|-----------------|
|       |  |  | \sigma    | Г  | Г                                   |          |          |  |  |                 |
| Final | 1<br>2<br>3<br>4<br>5<br>6<br>7  | 7/20/06  | < 12/3/06 |  |                                     |          |          |  |  |                 |
|       | 1  | 1  | V         | <del>                                     </del> | $\vdash$                            |          |          |  |  |                 |
|       | 2  | V  | _         | $\vdash$   |                                     |          | _        |  |  |                 |
|       | 3  | 1  | _         |  |                                     |          |          |  |  |                 |
|       | 4  | 1  | Ź         |  |                                     |          |          |  |  |                 |
|       | 5  | V  | _         |  |                                     |          |          |  |  |                 |
|       | 6  | V  | _         |  |                                     |          |          |  |  |                 |
|       | 7  | 1  | Ź         |  |                                     |          |          |  |  | Ш               |
|       | 8  | 1  |           | L_   |                                     |          |          | Ш  |  |                 |
|       | 9  | 1  | _         |  | L                                   |          | _        | _  |  | -               |
|       | 10   | <b>  √</b>                                       | <u> </u>  | <u> </u>   |                                     |          |          | _  |  | Щ               |
|       | 11   | 1  | ニンソン      | <u> </u>   | <u> </u>                            | Ш        | _        | $\vdash$   | ļ  | Щ               |
|       | 12   | V  | <u> </u>  | <u> </u>   | $\vdash$                            |          |          |  | H  | Ш               |
|       | 13   | <u>V</u>   | 15        | <del> </del>                                     | ⊢                                   | $\vdash$ | _        | $\vdash$   | -  | Н               |
|       | 15   | 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7            | ラファフノファ   | $\vdash$   | <b> </b>                            | -        | -        | <del> </del>                                     | $\vdash$   | Н               |
|       | 16   | J  | 15        | <del> </del>                                     |                                     |          | —        | <del>                                     </del> | -  | Н               |
|       | 17   | J  | Ď         | $\vdash$   | ┢                                   | H        | _        | H  | -  | Н               |
|       | 18   | j  | 1         | $\vdash$   |                                     |          | -        | $\vdash$   |  | Н               |
|       | 19   | Ì  | ブ         | $\vdash$   | ┢                                   | -        |          | -  | _  | Н               |
|       | 20   | V  | 7         | ┢  | $\vdash$                            |          |          |  |  | Н               |
|       | 21   | <del>                                     </del> | -         |  | $\vdash$                            |          |          |  |  | П               |
|       | 22   |  |           |  |                                     |          |          |  |  |                 |
|       | 23   |  |           |  |                                     |          |          |  |  |                 |
|       | 24   |  |           |  |                                     |          |          |  |  |                 |
|       | 25   |  |           |  |                                     |          |          |  |  |                 |
|       | 26   |  |           |  |                                     |          |          |  |  |                 |
|       | 27   | <u> </u>   |           |  |                                     |          |          |  |  | Щ               |
|       | 28   | _  |           |  | <u> </u>                            | _        |          |  |  |                 |
|       | 29   | Ŀ  |           | _  | <u> </u>                            | _        | _        |  |  | <u> </u>        |
|       | 30   | _  |           |  | <u> </u>                            | _        | L.       | ļ  | -  | Ш               |
|       | 8<br>9<br>10<br>11<br>12<br>13<br>14<br>15<br>16<br>17<br>18<br>19<br>20<br>21<br>22<br>23<br>24<br>25<br>26<br>27<br>28<br>29<br>30<br>31<br>32<br>33<br>34<br>35<br>36 | 1  | <u> </u>  | <u> </u>   | <del> </del>                        |          |          |  | $\vdash$   | Н               |
|       | 32   | -  | <u> </u>  | <u> </u>   | -                                   |          | -        |  | $\vdash$   | Н               |
|       | 34   | $\vdash$   | $\vdash$  | ┝  | ┢                                   | -        | -        | <u> </u>   | $\vdash$   | Н               |
|       | 35   | -  | $\vdash$  | <del> </del>                                     | ⊢                                   | $\vdash$ |          |  | -  | Н               |
|       | 36   | -  |           | <del>                                     </del> | H                                   |          | Η-       |  | <del>                                     </del> | Н               |
|       | 37   | T  | $\vdash$  | <u> </u>   | $\vdash$                            | $\vdash$ | $\vdash$ | <u> </u>   | $\vdash$   | Н               |
|       | 38   | <del>                                     </del> | T         | <u> </u>   |                                     |          | _        | -  |  | М               |
|       | 38<br>39   |  |           |  |                                     |          |          |  |  | П               |
|       | 40   |  |           |  |                                     |          |          |  |  |                 |
|       | 41   |  |           |  |                                     |          |          |  |  |                 |
|       | 42   |  |           |  |                                     |          |          |  |  |                 |
|       | 43   | oxdot  | Ĺ         |  | oxdot                               | $\Box$   |          | 匚  |  |                 |
|       | 44   |  | <u> </u>  | <u> </u>   | $ldsymbol{ldsymbol{ldsymbol{eta}}}$ | <u> </u> |          | <u> </u>   | <u> </u>   | Ш               |
|       | 45   | L_   | <u> </u>  | <u> </u>   | <u> </u>                            | L.       |          | <u>L</u>   | <u> </u>   | Щ               |
|       | 46   | _  | <u> </u>  | <u> </u>   | L                                   | <u> </u> | <u> </u> | <u> </u>   | <u> </u>   | Щ               |
|       | 47   |  | <u> </u>  | ├-   | <u> </u>                            | $\vdash$ |          | <u> </u>   | <u> </u>   | $\vdash \vdash$ |
|       | 48   | ļ.—  |           | <u> </u>   | <u> </u>                            | <u> </u> | _        | <u> </u>   | <u> </u>   |                 |
|       | 49   | -  | ├         | -  | <u> </u>                            | ┝        |          | ├  | <b>—</b>   |                 |
|       | 50   | 1  | ı         | ı  | ı                                   | ı        | ı        | 1  | ı  | ıl              |

| Cla      | aim            |          | _ |  |   | Date |          |   |   |  |
|----------|----------------|----------|---|--|---|------|----------|---|---|--|
|          |                |          |   |  |   |      |          |   |   |  |
| Final    | Original       |          |   |  |   |      |          |   |   |  |
|          | 51<br>52<br>53 |          |   |  |   |      |          |   |   |  |
|          | 52             |          |   |  |   |      |          |   |   |  |
|          | 53             |          |   |  |   |      |          |   |   |  |
|          | 54             |          |   |  |   |      |          |   |   |  |
|          | 54<br>55       |          |   |  |   |      |          |   |   |  |
|          | 56             |          |   |  |   |      |          |   |   |  |
|          | 57             |          |   |  |   |      |          |   |   |  |
|          | 58             |          |   |  |   |      |          |   |   |  |
|          | 59             |          |   |  |   |      |          |   |   |  |
| Ī.       | 60             |          |   |  |   |      |          |   |   |  |
|          | 61             |          |   |  |   |      |          |   |   |  |
|          | 62             |          |   |  |   |      |          | _ |   |  |
| -        | 63             |          |   |  |   |      |          |   |   |  |
|          | 64             |          |   |  |   |      |          | П |   |  |
|          | 65             |          |   | Г  |   |      |          | Т |   |  |
| -        | 66             |          |   |  |   |      |          |   |   |  |
| <b> </b> | 67             |          |   |  |   |      |          |   |   |  |
|          | 68             | _        | _ |  |   |      |          |   |   |  |
|          | 69             | _        |   |  |   |      |          |   |   |  |
| <b> </b> | 70             | _        |   | <del>                                     </del> | _ | _    |          | _ |   |  |
| <b></b>  | 71             | $\vdash$ | _ | $\vdash$   | _ |      |          | _ | _ |  |
| _        | 71<br>72       | -        | - | -  |   |      | $\vdash$ | _ |   |  |
|          | 73             | -        |   |  |   |      |          |   |   |  |
|          | 73<br>74<br>75 |          |   |  |   |      |          |   |   |  |
|          | 75             |          |   |  |   |      |          | Г |   |  |
|          | 76             |          |   | _  |   |      |          |   |   |  |
|          | 76<br>77<br>78 |          | _ |  |   |      |          |   |   |  |
|          | 78             |          |   |  |   |      |          |   |   |  |
|          | 79             |          |   |  |   |      |          |   |   |  |
|          | 80             |          |   |  |   |      |          |   |   |  |
|          | 81             |          |   |  |   |      |          |   |   |  |
|          | 82             |          |   |  |   |      |          |   |   |  |
|          | 83             |          |   |  |   |      |          |   |   |  |
|          | 84             |          |   |  |   |      |          |   |   |  |
|          | 85             |          |   |  |   |      |          |   |   |  |
|          | 86             |          |   |  |   |      |          |   |   |  |
|          | 87             |          |   |  |   |      |          |   | П |  |
|          | 87<br>88       |          |   |  |   |      |          |   |   |  |
| -        | 89             |          |   |  |   |      |          |   |   |  |
|          | 90             |          |   |  |   |      |          | Г | П |  |
|          | 91             |          |   |  |   |      |          |   |   |  |
|          | 92             |          |   |  |   |      |          | Г | Γ |  |
|          | 93             |          |   |  |   |      |          |   |   |  |
|          | 94             |          |   |  |   |      |          |   |   |  |
|          | 95             |          |   |  |   |      |          |   |   |  |
|          | 96             |          |   |  |   |      |          |   |   |  |
|          | 97             |          |   |  |   |      |          |   |   |  |
|          | 98             |          |   |  |   |      |          |   |   |  |
|          | 99             |          |   |  |   |      |          |   |   |  |
|          | 100            |          |   |  |   |      |          |   |   |  |

| Claim         Date           Tell         Date           101         102           103         104           105         106           107         108           109         110           111         112           113         114           115         116           117         118           119         120           121         122           123         124           125         126           127         128           129         130           131         132           133         134           135         136           137         138           139         140           144         145           146         147           148         149           150         150  |          | l    | L        | L.            | _              |  |               |                  |          | ı  |                 |
|---|----------|------|----------|---------------|----------------|--|---------------|------------------|----------|--|-----------------|
| Tell   | Cl       | aim. |          |               | <del>: -</del> |  | )ata          |                  |          |  | $\neg$          |
| 101   | O I      |      | $\vdash$ |               | <u> </u>       |  | Jak           | $\overline{}$    |          |  | $\dashv$        |
| 101   | -        | nal  |          |               | ľ              |  |               |                  |          |  |                 |
| 101   | Ë        | įį   |          |               | 1              |  |               |                  |          |  |                 |
| 102       103         104       105         106       107         108       109         110       111         111       112         113       114         115       116         117       118         119       120         121       122         123       124         125       126         127       128         129       130         131       132         133       134         135       136         137       138         139       140         141       142         143       144         145       146         147       148         149       149   | _        | Õ    |          |               |                |  |               |                  |          |  |                 |
| 102       103         104       105         106       107         108       109         110       111         111       112         113       114         115       116         117       118         119       120         121       122         123       124         125       126         127       128         129       130         131       132         133       134         135       136         137       138         139       140         141       142         143       144         145       146         147       148         149       149   |          | 101  | $\vdash$ |               |                |  | $\vdash$      |                  |          |  | Н               |
| 104   105   106   107   108   109   110   111   112   113   114   115   116   117   118   119   120   121   122   123   124   125   126   127   128   129   130   131   132   133   134   135   136   137   138   139   140   141   142   143   144   145   146   147   148   149 |          | 102  |          |               |                |  |               |                  |          |  | П               |
| 104   105   106   107   108   109   110   111   112   113   114   115   116   117   118   119   120   121   122   123   124   125   126   127   128   129   130   131   132   133   134   135   136   137   138   139   140   141   142   143   144   145   146   147   148   149 |          | 103  | ·        |               | :              |  |               |                  |          |  | $\Box$          |
| 105       106         107       108         109       110         111       112         113       114         115       116         117       118         119       120         121       122         123       124         125       126         127       128         129       130         131       132         133       134         135       136         137       138         139       140         141       142         143       144         145       146         147       148         149       149   |          | 104  |          |               |                |  |               |                  |          |  |                 |
| 107       108         109       110         111       112         113       114         115       116         117       118         119       120         121       122         123       124         125       126         127       128         129       130         131       132         133       134         135       136         137       138         139       140         141       142         143       144         145       146         149       149   |          | 105  |          |               |                |  |               |                  |          |  |                 |
| 108       109         110       111         111       112         113       114         115       116         117       118         119       120         121       122         123       124         125       126         127       128         129       130         131       132         133       134         135       136         137       138         139       140         141       142         143       144         145       146         149       149   |          | 106  |          |               |                |  |               | Ш                |          |  |                 |
| 110       111         111       112         113       114         115       116         117       118         119       120         121       122         123       124         125       126         127       128         129       130         131       132         133       134         135       136         137       138         139       140         141       142         143       144         145       146         149       149   |          | 107  |          |               |                |  |               |                  |          | _  |                 |
| 110       111         111       112         113       114         115       116         117       118         119       120         121       122         123       124         125       126         127       128         129       130         131       132         133       134         135       136         137       138         139       140         141       142         143       144         145       146         149       149   |          | 108  |          |               | ;              |  |               |                  |          |  | Ш               |
| 111       112         113       114         115       116         117       118         119       120         121       122         123       124         125       126         127       128         129       130         131       132         133       134         135       136         137       138         139       140         141       142         143       144         145       146         149       149   |          | 109  |          |               | _              |  | _             | L                |          | L  | Ш               |
| 112       113         114       115         116       117         118       119         120       121         122       123         124       125         126       127         128       129         130       131         132       133         134       135         136       137         138       139         140       141         143       144         145       146         149       149   |          |      | <u> </u> |               |                | _  |               |                  |          |  | Н               |
| 113       114         115       116         117       118         119       120         121       122         123       124         125       126         127       128         129       130         131       132         133       134         135       136         137       138         139       140         141       142         143       144         145       146         149       149   |          | 111  |          |               | <u> </u>       | _  | <u> </u>      | $\vdash$         |          | -  | Н               |
| 116       117         118       119         120       121         122       123         124       125         126       127         128       129         130       131         132       133         134       135         136       137         138       139         140       141         143       144         145       146         149       149   |          | 112  | $\vdash$ |               | <u> </u>       | $\vdash$   | <u> </u>      | -                | <u> </u> | <del> </del>                                     | $\vdash \vdash$ |
| 116       117         118       119         120       121         122       123         124       125         126       127         128       129         130       131         132       133         134       135         136       137         138       139         140       141         143       144         145       146         149       149   |          | 113  |          | <u> </u>      | -              | -  |               | Н                | _        | ⊢  | $\vdash \vdash$ |
| 116       117         118       119         120       121         122       123         124       125         126       127         128       129         130       131         132       133         134       135         136       137         138       139         140       141         143       144         145       146         149       149   |          | 114  | -        |               | Ŀ              | H  | <u> </u>      |                  |          |  | $\dashv$        |
| 118       119         120       121         122       123         124       125         126       127         128       129         130       131         132       133         134       135         136       137         138       139         140       141         142       143         145       146         149       149   | -        | 116  |          |               | $\vdash$       |  |               |                  |          | -  | Н               |
| 118       119         120       121         122       123         124       125         126       127         128       129         130       131         132       133         134       135         136       137         138       139         140       141         142       143         145       146         149       149   |          | 117  |          | H             | -              | -  | -             | $\vdash$         |          | ├─   | $\dashv$        |
| 119       120         121       122         123       124         125       126         127       128         129       130         131       132         133       134         135       136         137       138         139       140         141       142         143       144         145       146         149       149   |          | 118  | -        | $\vdash$      | -              | -  | -             | $\vdash$         |          | -  | $\vdash$        |
| 120   |          | 119  | -        | -             | :              |  |               |                  |          |  | H               |
| 121   |          | 120  |          |               | -              | $\vdash$   | <del></del>   |                  | _        | $\vdash$   | $\vdash$        |
| 122   |          | 121  | Ė        |               | $\vdash$       | $\vdash$   | $\vdash$      |                  | _        | ├─   | H               |
| 124   |          | 122  |          |               |                | $\vdash$   | $\overline{}$ |                  |          | _  |                 |
| 124   |          | 123  |          |               |                |  |               |                  |          |  |                 |
| 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148   |          | 124  |          |               |                |  |               |                  |          |  |                 |
| 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148   |          | 125  | _        |               | :              | _  |               | <u> </u>         |          | _  | Ш               |
| 130<br>131<br>132<br>133<br>134<br>135<br>136<br>137<br>138<br>139<br>140<br>141<br>142<br>143<br>144<br>145<br>146<br>147<br>148   |          | 126  | _        | _             | <u> </u>       |  |               |                  |          | _  |                 |
| 130<br>131<br>132<br>133<br>134<br>135<br>136<br>137<br>138<br>139<br>140<br>141<br>142<br>143<br>144<br>145<br>146<br>147<br>148   |          | 127  | L        | ļ             | ļ              | <u> </u>   |               | _                | _        |  | ├┤.             |
| 130<br>131<br>132<br>133<br>134<br>135<br>136<br>137<br>138<br>139<br>140<br>141<br>142<br>143<br>144<br>145<br>146<br>147<br>148   |          | 128  | -        | ┝             |                | ┝  | ⊢             | $\vdash$         | _        | <u> </u>   | Н               |
| 132   |          | 129  | -        | _             |                | <u> </u>   | ⊢             | -                | _        | -  | -               |
| 132   | <u> </u> | 130  | $\vdash$ | $\vdash$      | <u> </u>       | $\vdash$   |               | _                | -        | -  | -               |
| 133<br>134<br>135<br>136<br>137<br>138<br>139<br>140<br>141<br>142<br>143<br>144<br>145<br>146<br>147<br>148  |          | 132  | $\vdash$ |               | ┝              | ┢  |               |                  | -        |  | Н               |
| 134   |          | 133  | $\vdash$ | -             | -              | <del>                                     </del> |               |                  |          |  | Н               |
| 135   |          | 134  | $\vdash$ | $\overline{}$ | Ι.             | $\vdash$   |               |                  |          |  | П               |
| 136   |          | 135  |          |               | Ŀ              |  |               |                  |          |  |                 |
| 138   |          | 136  |          |               |                |  |               |                  |          |  |                 |
| 139   |          |      | L        |               | <u> </u>       | L  |               | $oxed{oxed}$     |          | <u> </u>   | Ш               |
| 140   141   142   143   144   145   146   147   148   149   149   149   149   149   149   149   149   149   149   149   140 | <u> </u> | 138  | <u> </u> | <u> </u>      | <u> </u>       | L.   |               | $\vdash$         | _        | <u> </u>   | Ц               |
| 141   |          |      | $\vdash$ | <del> </del>  | <u> </u>       | ├-   | <u> </u>      | -                | <u> </u> | <u> </u>   | Н               |
| 142   |          | 140  |          | ⊢             | Ŀ              | -  | $\vdash$      |                  | <u> </u> | -  | Н               |
| 143   |          |      | $\vdash$ | $\vdash$      |                | -  | $\vdash$      | -                |          | $\vdash$   | H               |
| 144   |          |      | $\vdash$ | $\vdash$      |                |  | <del> </del>  | $\vdash$         | $\vdash$ | <del>                                     </del> | Н               |
| 145   |          | 144  |          | $\vdash$      |                | <u> </u>   |               | ┢                | _        |  | $\vdash$        |
| 146   |          |      | <b>†</b> | $\vdash$      |                |  |               | Г                | Т        | -  | Н               |
| 147<br>148<br>149   |          | 146  |          |               |                |  |               |                  |          |  | П               |
| 149   |          | 147  |          |               | :              |  |               |                  |          |  |                 |
| 150   |          |      |          |               | :              |  |               |                  |          |  |                 |
| 150   |          | 149  |          | L_            | L              | L.   | _             | $ldsymbol{oxed}$ | L        | L  | Ш               |
|   | L        | 150  | L        | L             |                | <u> </u>   |               | L_               | l        | L  | LJ              |